

REMARKS

Entry of this amendment and reconsideration are respectfully requested in view of the amendments made to the claims and for the remarks made herein.

Claims 1-9, 18, 20 -24 are pending and stand rejected. Claims 1, 18, 20 and 21 have been amended.

The Office Action Summary states that claims 1-9, 18, 20 and 21 stand rejected and that claims 10-17, 19 and 25-33 have been withdrawn from consideration. However, no reference is made to claims 22-24 in the Office Action Summary. Applicant believes that these claims are pending in the instant application and respectfully requests that these claims be referred to in future actions in this matter.

Claims 1-4, 6, 7-9, 18 and 20-21 stand rejected under 35 USC 102(e) as being anticipated by Linden (USP no. 6,266,649), which is the same reason recited in rejecting the claims in the prior Office Action. In maintaining the reason for the rejection of these claims in view of the amendments made to the claims in applicant's prior response, the instant Office Action states that "Linden teaches grouping community of users information of similar items purchased into types or groups of items such as non-fiction, fiction, Jazz, comedy, etc (col. 14, lines 15-34), the user selects from the types or groups of items by making purchases or rating an item from that group and his or her selection is added to the user' profile (data base 38). (see page 4, item 5).

Applicant thanks the Examiner for the additional reasoning for rejecting the claims. However, applicant continues to respectfully disagree with the reason for rejecting the claims for the same reasons recited in applicant's response to the rejection of the claims in the prior Office Action. However, the independent claims have been amended to recite that items in a respective one of said clusters has a distance measure closer to a mean of said cluster than to a mean of remaining ones of said clusters. No new matter has been added. Support for the amendment may be found at least on page 4, lines 8-12, "third party viewing ... of clusters, such that points (e.g., television programs) in one cluster are closer to the mean of that cluster than any other cluster."

Linden discloses a recommendation system for recommending items to individual users based on a set of items that are known to be of interest to the users, such as a set of

items previously purchased by the user. (see Abstract). The recommendation system first identifies items known to be of interest to the user (step 80, Fig. 2) and then retrieves similar items for each item of known interest (step 82, Fig. 2). The similar items are "based on the collective interests of the community of users. For example, ... the similarities are based on correlations between the purchases of items by users (e.g., items A and B are similar because a relatively large portion of the users that purchased item A also bought item B." (see abstract). The similar items are combined, sorted and filtered using the user provided items as a reference and presented to the user. (Fig. 2, steps 84-94).

Linden further discloses that in determining items to be considered similar "[t]he similarity between two items is preferably measured by determining the number of users that have an interest in both items relative to the number of users that have interest in either item" (see col. 2, line 65- col. 3, line 2). This is more clearly expressed with regard to Figure 4, which "illustrates [a] method in example form. ... item_P ... has two other items item_X and item_Y. ... Thus, even though items P and Y have more customers in common than items P and X, items P and X are treated as being more similar than items P and Y. This result desirably reflects the fact that the percentage of item_X customers that bought item_P (6.7%) is much greater than the percentage of item_Y customers that bought item_P (0.08%)." (see col. 13, lines 12-30).

Hence, not only does Linden teach a system that provides a user with recommendations of third-party users based on an input provided by the user, Linden further teaches that similarity of items is based on the relationship of the number of users that share common interest in the item.

It is well recognized that to constitute a rejection pursuant to 35 USC §102, i.e., anticipation, all material elements recited in a claim must be found in one unit of prior art.

Linden cannot be said to anticipate the present invention, because Linden fails to disclose each and every element recited. Linden fails to disclose forming the third-party user information into clusters independent of a user input and that the items in the clusters have a relationship to the mean of the respective cluster.

The instant Office Action refers to col. 14, lines 14-31 for showing that Linden discloses clusters such as "non-fiction," "fiction," "jazz," or comedies.' However, Linden fails to teach how items that are "non-fiction comedies" would be sorted into one cluster or another. Accordingly, Linden fails to disclose that the items in the clusters have a relationship to the means of the clusters.

At least for these reasons, applicant submits that the rejection of the claim has been overcome and can no longer be sustained. Applicant respectfully requests withdrawal of the rejection and allowance of the claim.

With regard to the remaining independent claims, these claims recite subject matter similar to that recited in claim 1 and were rejected for the same reason used in rejecting claim 1. Thus, for the amendments made to these claims, which are similar to the amendments made with regard to claim 1, and for the remarks made in response to the rejection of claim 1, which are also applicable in response to the rejection of this claim, and reasserted, as if in full, herein, applicant submits that the rejection of these claims has been overcome. Applicant respectfully requests withdrawal of the rejection and allowance of the claims.

With regard the remaining claims these claims ultimately depend from the independent claims, which have been shown to contain subject matter not disclosed by, and, hence, allowable over, the reference cited. Accordingly, these claims are also allowable by virtue of their dependency from an allowable base claim.

Accordingly, applicant respectfully requests withdrawal of the rejection and allowance of the claims.

Claims 5 and 22-24 stand rejection under 35 USC 103(a) as being unpatentable over Linden in view of Official Notice.

Applicant respectfully disagrees with and explicitly traverses the reason for rejecting the claims.

The aforementioned claims depend from the independent claims, which have been shown to contain subject matter not disclosed by Linden. The Examiner's taking of Official Notice fails to provide any teaching of the subject matter shown to be lacking in Linden.

A claimed invention is *prima facie* obvious when three basic criteria are met. First, there must be some suggestion or motivation, either in the reference themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the teachings therein. Second, there must be a reasonable expectation of success. And, third, the prior art reference or combined references must teach or suggest all the claim limitations.

In this case, the combination of Linden and Office Notice fails to render the subject matter recited in the instant application obvious as the combination fails to teach or suggest all the claim limitations.

For at least this reason, applicant submits that the reason for the rejection has been overcome and respectfully requests that the rejection be withdrawn.

In addition, the instant Office Action states that "it would have been obvious ... to have included k-means clustering routine in order to obtain the above mentioned advantage (Official Notice is taken that it is old and well-known to employ a means routine because such a modification would provide a midway position or average value.)".

However, the Office Action fails to show where Linden suggests using a k-means algorithm for determining similar items based on a user input or why it would be useful to include such a k-means algorithm.

A K-means algorithm may be summarized as:

K-means ([MacQueen, 1967](#)) is one of the simplest unsupervised learning algorithms that solve the well known clustering problem. The procedure follows a simple and easy way to classify a given data set through a certain number of clusters (assume k clusters) fixed a priori. The main idea is to define k centroids, one for each cluster. These centroids should be placed in a cunning way because of different location causes different result. So, the better choice is to place them as much as possible far away from each other. The next step is to take each point belonging to a given data set and associate it to the nearest centroid. When no point is pending, the first step is completed and an early group age is done. At this point we need to re-calculate k new centroids as barycenters of the clusters resulting from the previous step. After we have these k new centroids, a new binding has to be done between the same data set points and the nearest new centroid. A

loop has been generated. As a result of this loop we may notice that the k centroids change their location step by step until no more changes are done. In other words centroids do not move any more.

Accordingly, a k-means algorithm finds centroids of clusters and matches data to the centroids, whereas Linden determines data points that match the user input.

No motivation to incorporate a K-means algorithm into the teachings of Linden, has been shown to exist in the Linden reference as the K-means algorithm would require the generation of k new centroids when Linden seeks to determine a single centroid based on the user input.

For at least this reason also applicant submits that the reason for the rejection has been overcome and respectfully requests that the rejection be withdrawn.

For all the foregoing reasons, it is respectfully submitted that all the present claims are patentable in view of the cited references. A Notice of Allowance is respectfully requested.

Respectfully submitted,

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